AMENDMENTS TO THE CLAIMS

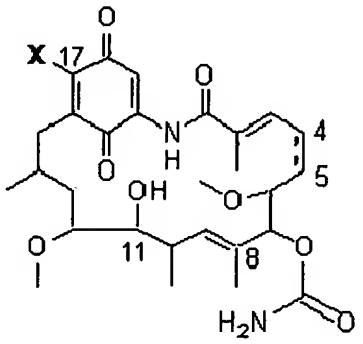
Please cancel claims 13 -14, 17-28, and 30-39. The listing of claims which follows will replace all prior versions and listings of claims in the application.

Claim 1 (original). A composition comprising a compound, said compound comprising an HSP90 ligand selected from the group consisting of purines, ansamycins, radicicol, zearalanols, ATP analogs, indoles, chalcones, and benzimidazoles; said HSP90 ligand derivatized with a functional moiety selected from the group consisting of imaging agents, radioactive therapeutic agents, and cytotoxic agents.

Claim 2 (original). The composition of claim 1 wherein said ligand is geldanamycin derivatized at one or more of the -8, -11, and -17 positions with said functional moiety.

Claim 3 (original). The composition of claim 1 wherein said ligand is geldanamycin derivatized at position -17 with said functional moiety.

Claim 4 (original). The composition of any of claims 1-3 wherein said ligand has formula A



A

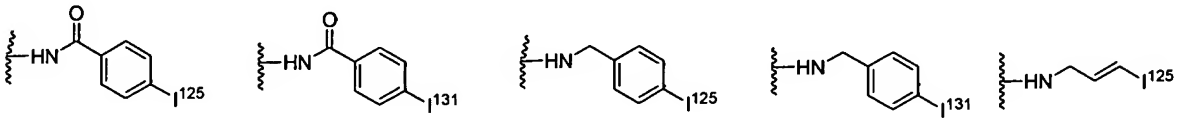
wherein X comprises said functional moiety, and wherein positions 4 and 5 are optionally both hydrated (4,5-dihydrogeldanamycin).

Claim 5 (original). The composition of any one of claims 1-3 wherein said functional moiety comprises a radioisotope.

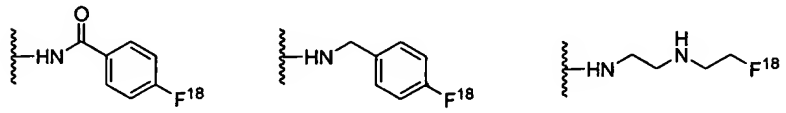
Claim 6 (original). The composition of any one of claims 1-3 wherein said functional moiety comprises a radioisotope selected from the group consisting of Iodine^{125}, Iodine^{131}, ^{213}Bi, Technitium^{99m}, Technitium^{99}, Indium^{111}, Rhenium^{188}, Gallium^{67}, Copper^{67}, Yttrium^{90}, and Astatine^{211}.

Claim 7 (original). The composition of claim 5 wherein said radioisotope is selected from the group consisting of ^{18}F, ^{11}C, ^{13}N, ^{123}I, ^{124}I, ^{125}I, ^{131}I, and ^{15}O.

Claim 8 (original). The composition of claim 1 wherein said compound has a formula selected from among the following group of formulas



Radionuclide moieties
Radionuclide treatment



Radionuclide scanning (Positron Emission Tomography or PET)
Common isotopes are: ^{18}F, ^{11}C, ^{13}N, ^{123}I, ^{124}I and ^{15}O

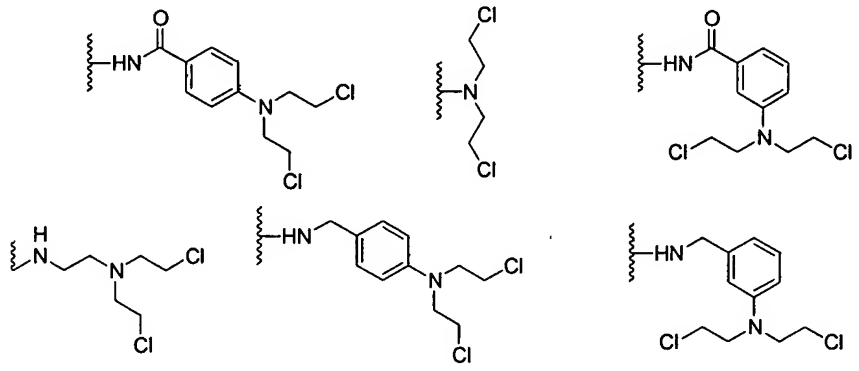
Claim 9 (original). The composition of any one of claims 1-3 wherein said functional moiety comprises an imaging agent.

Claim 10 (original). The composition of any one of claims 1-5 wherein said functional moiety comprises a radioactive therapeutic agent.

Claim 11 (original). The composition of claim 1 wherein said functional moiety is selected from the group consisting of radioisotopes, antibodies, recombinant products, small molecules, antineoplastic agents, nitrogen mustard drugs (mustins), herceptin,

taxol, taxanes and taxane derivatives, gleevec, alkylating agents, anti-metabilites; epidophyllotoxin; an antineoplastic enzyme; a topoisomerase inhibitor; procarbazine; mitoxantrone; platinum coordination complexes; biological response modifiers/growth inhibitors; hormonal/anti-hormonal therapeutic agents and haematopoietic growth factors, anthracycline drugs, vinca drugs, mitomycins, bleomycins, cytotoxic nucleosides, tepothilones, discodermolide, pteridine drugs, diynenes, podophyllotoxins, carminomycin, daunorubicin, aminopterin, methotrexate, methopterin, dichloromethotrexate, mitomycin C, porfiromycin, 5-fluorouracil, 6-mercaptopurine, gemcitabine, cytosine arabinoside, podophyllotoxin, podo-phyllotoxin derivatives, etoposide, etoposide phosphate or teniposide, melphalan, vinblastine, vincristine, leurosidine, vindesine, leurosine, paclitaxel, estramustine, carboplatin, cyclophosphamide, bleomycin, gemcitibine, ifosamide, melphalan, hexamethyl melamine, thiotepa, cytarabin, idatrexate, trimetrexate, dacarbazine, L-asparaginase, camptothecin, CPT -11, topotecan, ara-C, bicalutamide, flutamide, leuprolide, pyridobenzoindole derivatives, interferons and interleukins, and photoactivatable compounds.

Claim 12 (original). The composition of claim 1 wherein said compound has a formula selected from the following group of formulas



nitrogen mustard or "mustin" moieties

Claim 13 (cancel).

Claim 14 (cancel).

Claim 15 (original). A method of treating or preventing an HSP90-mediated disease, comprising administering to a subject a pharmaceutically effective amount of a composition according to claim 11.

Claim 16 (original). A method of treating or preventing an HSP90-mediated disease, comprising administering to a subject a pharmaceutically effective amount of a composition according to claim 8.

Claim 17 (cancel).

Claim 18 (cancel).

Claim 19 (cancel).

Claim 20 (cancel).

Claim 21 (cancel).

Claim 22 (cancel).

Claim 23 (cancel).

Claim 24 (cancel).

Claim 25 (cancel).

Claim 26 (cancel).

Claim 27 (cancel).

Claim 28 (cancel).

Claim 29 (original). A method of diagnosing or monitoring the progress or regression of an HSP90-mediated disease, comprising:

administering to the cells of a subject having or suspected of having an HSP90-mediated disease a composition according to any one of claims 1, 5-10, or 12; and

evaluating said cells for the presence of said compound.

Claim 30 (cancel).

Claim 31 (cancel).

Claim 32 (cancel).

Claim 33 (cancel).

Claim 34 (cancel).

Claim 35 (cancel).

Claim 36 (cancel).

Claim 37 (cancel).

Claim 38 (cancel).

Claim 39 (cancel).